

1. Product Name

Integrated™ Top Rail

2. Manufacturer

Formulated Materials, LLC
3010 NW 149th St., SUITE 100
Oklahoma City, OK 73134
Tech Services : (844) 405-3676
www.formulatedmaterials.com
www.formulated.info

3. Product Description

The Integrated™ Top Rail is a powder-coated extruded 6063-T6 aluminum rail section designed to span between posts at the top of the Integrated™ Railing System. The top rail profile measures approximately 1-15/16" high by 1-3/4" wide with 0.080/0.100" wall thickness and includes a PVC baluster retainer (1-1/4" high by 1" wide, 0.050" wall). The top rail serves as the graspable handrail and the upper structural member of the railing assembly. The rail is pre-routed for picket insertion and is designed for use with Integrated™ Top Rail Level Brackets for attachment to posts. Each 5' section accepts 13 pickets. Each 6' section accepts 16 pickets.

Key Features

- Extruded 6063-T6 aluminum construction with 0.080/0.100" wall thickness
- 5' and 6' nominal length for standard post spacing
- Includes PVC baluster retainer (1-1/4" high x 1" wide, 0.050" wall)
- AAMA 2604 powder-coated finish
- Pre-routed holes for 13/16 pickets per section
- Designed for use with Top Rail Level Brackets
- Graspable profile meeting code requirements
- Achieved 2.5x design load without failure for horizontal, vertical, and concentrated loads (Intertek Report P2566.01-119-19 R0)

Where to Use

- Multifamily balconies and walkways
- Hotel and condominium balconies
- Commercial exterior decks and terraces
- Apartment complexes
- Renovation of aging wood frame or concrete structures

Product Composition

Extruded 6063-T6 aluminum rail with PVC baluster retainer; AAMA 2604 powder-coated finish



Product Limitations

- Install per current published instructions only.
- Do not exceed maximum post spacing for rail sections.
- Do not modify, cut, or weld rail in the field without written authorization from Formulated Materials, except as described in the cutting procedure.
- Apply two coats of Formulated Materials Touch-Up Paint to all cut surfaces. Use of unauthorized paint will void the warranty.
- Limitations not to be construed as all-inclusive.

Packaging

300 per pallet

4. Technical Data

Applicable Standards

Standard	Description
2021 IBC	International Building Code®, International Code Council
2021 IRC	International Residential Code®, International Code Council
IBC Ch. 17	Structural Tests and Special Inspections

Structural Performance — Rail and Rail-to-Bracket Tests

Test	Design Load	Result
Horizontal Uniform Load on Top Rail	300 lb (50 plf)	Achieved 2.5x (751 lb) without failure
Vertical Uniform Load on Top Rail	300 lb (50 plf)	Achieved 2.5x (758 lb) without failure
Horizontal Concentrated Load at Midspan	200 lb	Achieved 2.5x (502 lb) without failure
Concentrated Load at Ends (Brackets)	200 lb per end	Achieved 2.5x (1,000 lb) without failure
Recovery from 2.0x Design Load	—	92–98%

Structural performance testing was conducted by Intertek Building & Construction (Report No. P2566.01-119-19 R0, dated 11/16/22) in accordance with the 2021 IBC on the Integrated™ Railing System. The 72 in wide by 42 in high guardrail assembly with 3-1/2 in post mount met the 2021 IBC design load performance requirements. All tested components achieved 2.5 times design load without failure. Anchorage of support posts to the supporting structure was not included in the scope of testing and must be evaluated separately per project requirements.

5. Instructions

Tools Required

- Safety glasses
- Tape measure and pencil
- Power drill with T25 Torx bit
- Metal saw with carbide-tip blade (if cutting required)
- Rubber mallet
- File (for deburring cut edges)
- Level

Jobsite Conditions

- Posts must be installed, plumb, and secured before rail panel installation.
- Verify post spacing matches rail length before beginning installation.
- Rest rails on non-abrasive material (such as cardboard from packaging) during cutting to protect powder-coat finish.

Surface Prep

Confirm all posts are installed, plumb, and properly secured. Verify post spacing is appropriate for rail section. Ensure Top Rail Level Brackets are installed on posts. Work on a clean, level surface that will not damage the product coating.

Installation of Product

1. If assembling from a Level Rail Kit, lay the top rail on a clean, level surface with the pre-routed holes facing upward.
2. Lift the bottom rail assembly (with balusters already inserted) and flip it over. Align the balusters with the corresponding holes in the top rail. A second person is recommended for this step.
3. Using a rubber mallet, firmly hammer across the bottom rail from one side to the other until all balusters are properly seated in both rails.
4. Flip the assembled panel so the top rail is right-side up.
5. Place the assembled level rail panel into the brackets mounted on the posts, ensuring the panel is properly seated in both the top and bottom brackets.
6. Verify the top rail is positioned at a minimum of 42" from the finished surface to the top of the rail (or per local code requirements).
7. Using the #10x1" Torx Head self-tapping screws (included), secure the top rail to the top rail brackets through the pre-routed holes.

8. Snap the bracket covers over the top brackets to conceal hardware and provide a finished appearance.
9. If cutting is required: measure the distance between posts, subtracting 1/4" for clearance. Center the panel and cut equal amounts from each end for balanced baluster spacing. Maintain minimum 2-1/4" spacing between end balusters and posts.
10. After any cutting, file all rough edges smooth, remove all metal shavings, and apply two coats of Formulated Materials Touch-Up Paint to all exposed cut surfaces. Allow each coat to dry completely before proceeding.

Storage & Protection

- Store in a dry, covered area to prevent damage to powder-coated finish.
- Support rails along their full length to prevent bowing or warping during storage.
- Avoid prolonged contact with dissimilar metals to prevent galvanic corrosion.
- Rest rails on non-abrasive material to protect finish from scratches.

Health Precautions

- Follow all local safety regulations, including OSHA Section V: Chapter 4 for Fall Protection in Construction.
- Always wear safety glasses when cutting, drilling, and assembling the product. Use hearing protection when operating power saws.
- Always review the full label and Safety Data Sheet (SDS) for detailed precautionary instructions before use.

Conformance to Building Codes

Installation must comply with all applicable local, state, and federal codes, regulations, and industry standards. The installer is solely responsible for ensuring compliance with all local building codes and safety requirements, and for obtaining all required building permits.

6. Availability

Item	Description	Size	Qty/Unit	Per Pallet
10611	5' Top Rail	1-15/16" x 1-3/4" x 60"	300/pallet	300
10602	6' Top Rail	1-15/16" x 1-3/4" x 72"	300/pallet	300

7. Product Warranty

For details and complete warranty information, visit www.formulatedmaterials.com.

8. Product Maintenance

Properly installed products do not require ongoing maintenance. For coastal installations (within one mile of saltwater coastline), clean railing surfaces quarterly with mild soap and water to maintain finish warranty coverage. Refer to the Integrated™ Railing System Limited Warranty for complete care and maintenance requirements.

9. Technical Services Information

For Technical Services, contact Formulated Materials at (844) 405-3676.

10. Filing System

Additional product information is available from Formulated Materials upon request.



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